WHAT IS CLAIMED IS:

1. A method of receiving a bitstream that is divided into units encoding a moving picture and includes a stream header indicating how the units are to be decoded, comprising the steps of:

estimating contents of the stream header from contents of the units;

generating estimated stream-header information; and

decoding the units according to the estimated stream-header information before the stream header is received.

2. The method of claim 1, wherein at least one unit among the units includes a unit header, further comprising the steps of:

analyzing the unit header according to the estimated stream-header information;

generating analyzed unit-header information;

checking the analyzed unit-header information for analysis errors; and

modifying the estimated stream-header information when an analysis error is found.

3. The method of claim 1, further comprising the steps of:

checking the decoded units for decoding errors; and

modifying the estimated stream-header information when a decoding error is found.

4. The method of claim 3, further comprising the steps of:

decoding a single one of the units repeatedly, if a decoding error is found; and

modifying the estimated stream-header information each time said single one of the units is decoded.

5. A receiving apparatus receiving a bitstream that is divided into units encoding a moving picture and includes a stream header indicating how the units are to be decoded, comprising:

a stream-header estimator that estimates contents of the stream header from contents of said units, and generates estimated stream-header information.

6. The receiving apparatus of claim 5, wherein at least one unit among said units includes a unit header, further comprising:

a unit-header analyzer that analyzes the unit header according to the estimated stream-header information, and generates analyzed unit-header information; and

a first error checker that checks the analyzed unit-header information for errors, and instructs the stream-header estimator to modify the estimated stream-header information if an error is found.

7. The receiving apparatus of claim 6, wherein each unit among said units also includes unit data, further comprising:

a decoder that decodes the unit data according to the analyzed unit-header information, and generates decoded unit data; and

a second error checker that checks the decoded unit data for errors, and instructs the stream-header estimator to modify the estimated stream-header information if an error is found in the decoded unit data.

8. The receiving apparatus of claim 7, wherein the second error checker causes the decoder to decode the unit data of a single unit repeatedly, until a predetermined condition is satisfied, and instructs the stream-header estimator to

modify the estimated stream-header information repeatedly, until the predetermined condition is satisfied.

9. A picture output apparatus receiving decoded data and generating picture-unit signals for display of a moving picture on a screen, comprising:

a decoded picture-unit generator that generates said decoded picture-unit signals from said decoded data;

a reference store that temporarily stores the decoded picture-unit signals for reference; and

an output candidate checker that receives the decoded picture-unit signals from the decoded picture-unit generator after the decoded picture-unit signals have been stored for reference, treats the decoded picture-unit signals as output candidate signals having constituent blocks, compares the constituent blocks of the output candidate signals with the constituent blocks of the decoded picture-unit signals stored in the reference store, determines whether each constituent block was decoded correctly, and thereby decides whether to output the output candidate signals as said picture-unit signals.

10. The picture output apparatus of claim 9, further comprising:

a substitute picture generator that generates a substitute unit signal for display on said screen during a period in which the output candidate checker continually decides not to output the output candidate signals as said picture-unit signals, the substitute unit signal indicating an operating status of the picture output apparatus.